

Setting Global Warming Pollution Reduction Targets

Global warming pollution is increasing in most parts of the world. The IPCC projects that under a range of plausible emissions scenarios, the concentration of greenhouse gases (GHG's) in the atmosphere will be 2 times to 3 times pre-industrial levels, or 540-970 parts per million (ppm) (Figure 1)—causing a mean global temperature rise of 4-9 °F. The world has not determined what constitutes a “safe” temperature rise or GHG concentration,¹ but this is probably beyond that; it has been suggested limiting global warming to 2°C, or an atmospheric concentration of 450 ppm, may be appropriate goals.² Stabilizing at any concentration below 550 ppm will mean reducing global warming pollution (GHG's) far below today's levels (Figure 2) – possibly by up to 90 percent on a per-capita basis in the U.S.

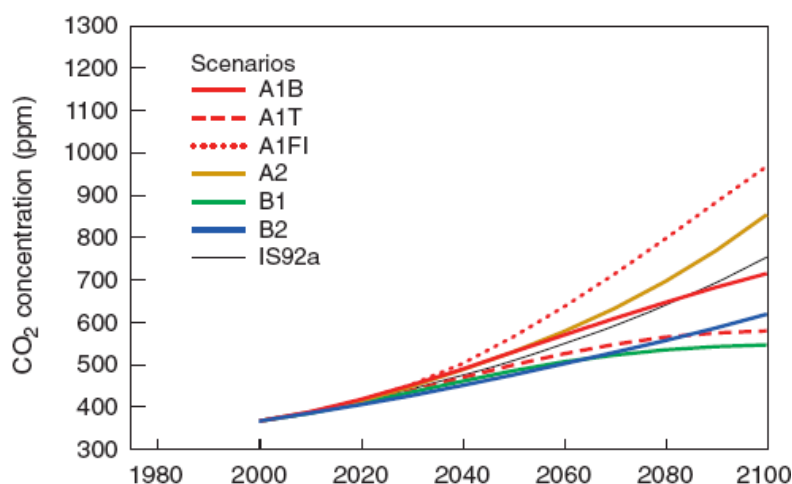


Figure 1. A range of scenarios for atmospheric CO₂ concentration in the 21st century, based on a range of emissions scenarios (named A1B to IS92a). The preindustrial concentration was 268 ppm. This projects that the concentration will be 540-970 ppm in 2100, and only two scenarios (A1T and B1) show the concentration nearing stabilization at that point. (IPCC Working Group I)

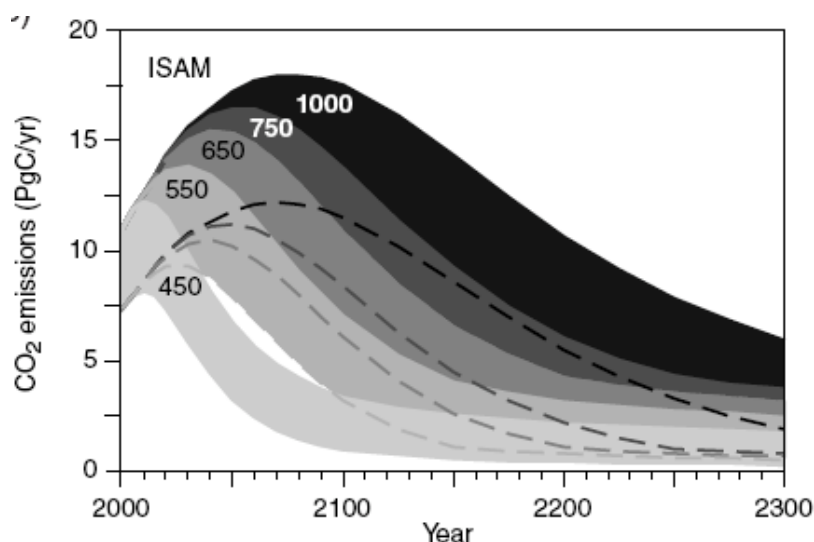


Figure 2. Projected CO₂ emissions permitting stabilization of atmospheric CO₂ concentrations at different final values. The upper and lower bounds are indicated by the top and bottom of the shaded area. Alternatively, the lower bound (where hidden) is indicated by a hatched line. (IPCC Working Group I)

¹ The ultimate objective of climate change policy is to stabilize greenhouse gas concentrations at a level that will prevent dangerous anthropogenic interference with the climate, as stated in the United Nations Framework Convention on Climate Change.

² For example, see Oppenheimer, M., and O'Neill, B., “Dangerous Climate Impacts and the Kyoto Protocol,” *Science* 296, 1971-1972, 14 June 2002.

As a first step toward addressing what will be a century-long challenge, states and countries have set their sights on halting growth in global warming pollution and reducing emissions a small percentage below 1990 levels over the next 5 to 15 years. (1990 is chosen most often because it is the base year for the UNFCCC.) Because these reductions must take place in the face of economic growth, they are challenging to meet—but generally this scale of reductions is within the reach of existing low-carbon and efficient technologies. A couple of states and countries have also set long-term, deeper targets that are more reflective of the long-term nature and scale of the problem.

The following table illustrates the range of targets that have been set. This list is not comprehensive. Figure 3 shows some of the targets in terms of tons of carbon reduced. Almost all of these targets were set through a decision-making process that was primarily political, rather than scientific or technical.³ While countries conducted analysis of what reduction targets are economically and technically feasible, many settled on “stretch” targets that will be challenging to meet.

Body	Target	Authority	Binding?
<i>International-National</i>			
UNFCCC	1990 levels by 2000	Ratified by 189 countries (including the U.S.)	No
Kyoto Protocol	5.2% below 1990 levels by 2008-2012 (average)	Ratified by Canada, EU, Japan, Russia; Rejected by US, Australia	Yes (in early 2005)
European Union	8% below 1990 levels between 2008-2012	EU Parliament	Yes
UK	Domestic targets: 20% below 1990 levels by 2010 60 percent below 1990 levels by 2050 Kyoto target: 12.5% below 1990 levels by 2008-2012	Domestic targets: Prime Minister Blair Kyoto: ratified by UK Parliament	Kyoto target is binding, domestic targets are not
Germany	21% below 1990 levels by 2008-2012 40% below 1990 levels by 2020, if the EU adopts a 30% by 2020 target	German Parliament	Yes
USA	18% reduction in carbon intensity from 2002-2012. This is approximately equal to a business as usual emissions path.	President Bush initiative	No

³ An exception is the UK’s long-term target of a 60% reduction by 2050, which was recommended by the Royal Commission on Environmental Pollution and then adopted by the UK government. Germany has commissioned a similar analysis and concluded that an 80% reduction by 2050 is called for, but it has not formally adopted this target.

Japan	6% below 1990 levels by 2008-2012		Yes
Canada	6% below 1990 levels by 2008-2012	Canadian Parliament	Yes
Australia	8% above 1990 levels by 2008-2012	Prime Minister Howard (Australia has not ratified Kyoto, but has pledged to meet its Kyoto target regardless)	No
<i>U.S. States</i>			
Oregon	Hold CO2 emissions at 1990 levels	Benchmark	No
New England States/ Eastern Canadian Provinces	1990 levels by 2010 10% below 1990 levels by 2020 75-85% below 1990 in the long term	Governors/Premiers Resolution	No
Maine	Same as NEG/ECP goals	Legislation (2003)	No
Connecticut	Same as NEG/ECP goals If the NEG/ECP does not put a date on the 75-85% target, CT will use 2050 as the target date.	Legislation (2004)	No
New York	5% below 1990 levels by 2010 10% below 1990 levels by 2020	New York State Energy Plan	No
New Jersey	3.5% below 1990 levels by 2005	NJ DEP	No

Cities

Portland/Multnomah County	GHG emissions 10% below 1990 levels by 2010
Chula Vista, CA	GHG emissions 20% below 1990 levels by 2010
Oakland, CA	GHG emissions 15% below 1990 levels by 2010
Berkeley, CA	GHG emissions 15% below 1990 levels by 2010
San Jose, CA	GHG emissions 10% below 1990 levels by 2000
Seattle, WA	GHG emissions 7% to 40% below 1990 levels by 2010

Selected Companies

Nike	CO ₂ emissions 13% below 1998 levels by 2005
Intel	PFC emissions 10% below 1995 levels by 2010
Collins Companies	CO ₂ emissions 15% below 1990 levels by 2009
DuPont	GHG emissions 65% below 1990 level by 2010 (achieved 67% reduction by 2002)
Seattle City Light	Zero net GHG emissions, achieved through efficiency, renewables, and offsets

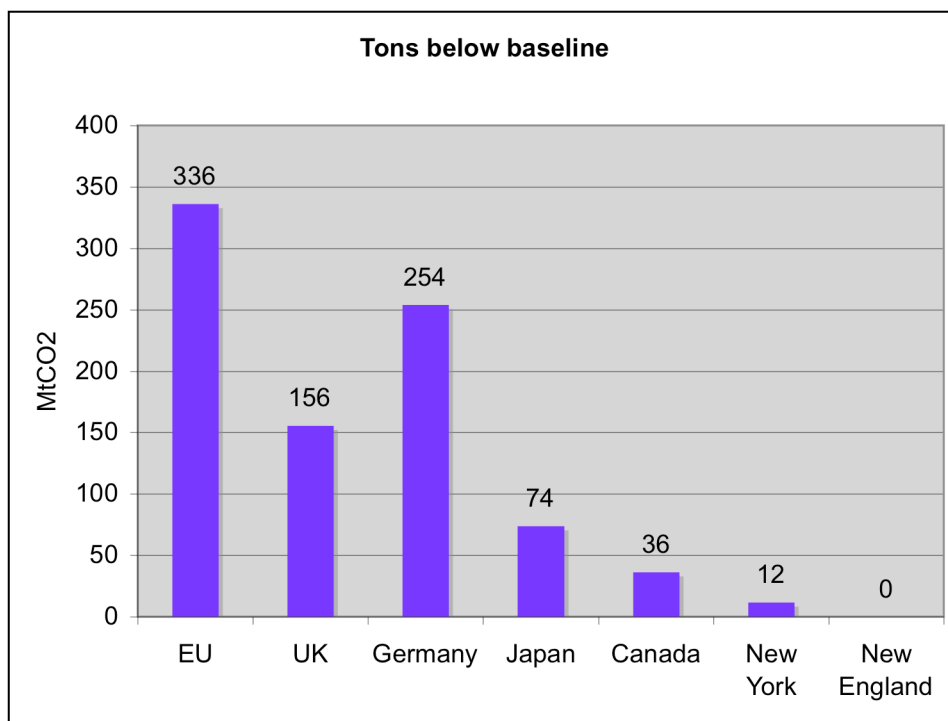


Figure 3. Selected 2010 targets in terms of tons below 1990 (baseline) levels.